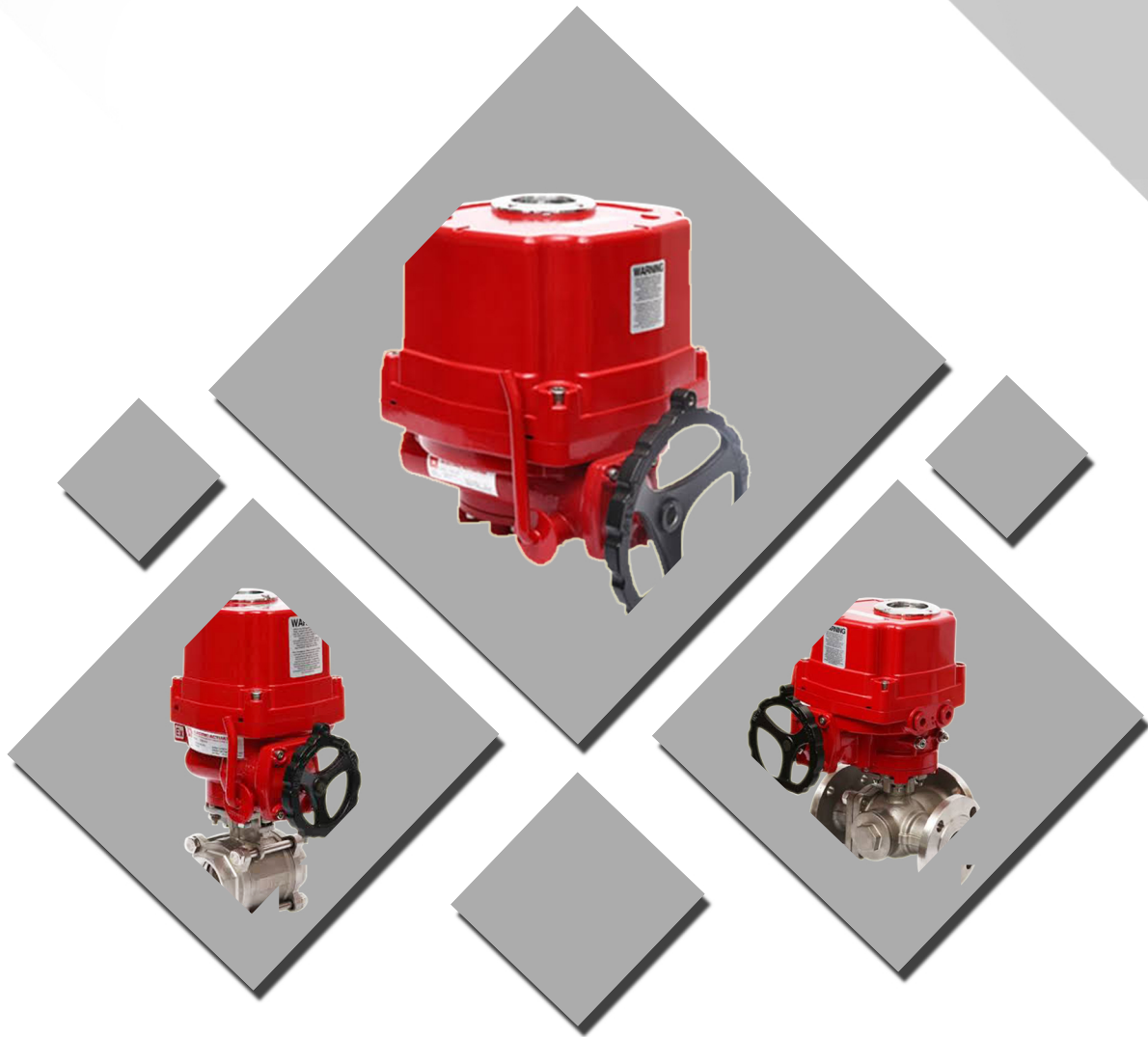




VALVECOM

ELETRIC ACTUATOR WITH GEAR TYPE



OHVE

ELETRIC ACTUATOR

Intelligent Process Control

Build A Quality



Summary

Series Explosion-proof electric actuator is used for controlling 0°-270° rotation of the valves and other similar products, such as butterfly valve, ball valve, damper, flapper valve, plug valve, louver valve and so on. It widely applies to petroleum, chemical, water treatment, shipping, paper making, power plant, heating, light industry and other industries. It can be driven by 380V/220V/110V AC power or 24V/110V DC power, inputs 4-20mA current signal or 0-10V DC voltage signal as control signal. It moves the valve to the right position, and achieves automatic control, its maximum output torque is 2000N·M. (CE and explosion-proof certificates approved).

Performance Feature

Actuator Cover—The cover is made of hard aluminum alloy with anodize treatment and polyester powder coating. It is highly corrosion-resistant and waterproof level is IP67. IP68 and explosion-proof type is optional.

Motor—Fully enclosed squirrel-cage motor with small size, large torque, small inertia force and F class insulation rating. Internal hot protection switch avoids damaging of the motor.

Manual Handwheel—The design of hand wheel is safe, reliable, labor-saving and small. When the actuator is not energized, it can be operated by hand wheel after pulling the clutch to the right position. Once energized, the clutch will return automatically.

Position Indicator —Installed in the center axis for observing position of valve. To avoid ponding and observe conveniently, it is designed by Convex lens.

Heater and Thermostat—It is used for controlling temperature inside the actuator to avoid internal moisture because of changes of temperature and weather.

Limit Switch—Mechanical and electronic double limit. Mechanical limit screw is adjustable, safe and reliable.

Electronic limit switch is SPDT controlled by the cam. Position of limit switch can be set accurately and conveniently by simple adjustment.

Torque Switch — It provides overload protection(Except type OHVE 005/008/010) and avoids damages to valve and actuator by cutting power supply automatically when the valve is jammed. (Set up factory, no need to modify by users)

Self-lock— Precise worm and worm gear transfer large torque efficiently with low noise(max. 50 dB) and long life. The self-lock function prevents inversion and insure stability and reliability. High-effective lubricant oil has been added ex-factory, it doesn't need to add any more.

Anti-off Bolt — The bolt will attach to the cover when removing the cover. All external bolts are made of stainless steel.

Installation — Installation size at the bottom of Electric Actuator meets international standard ISO5211 and DIN3337. The pores are ditetragon that it is easy to install by linear or 45°. The actuator can be installed vertically or horizontally.

Circuit — Controlling circuit meets single-phase or three-phase power supply standard with reasonable and compact layout. Terminals meet various of additional functional requirements effectively.

Intelligent Module — It adopts highly integrated and low consumption control plate with MCU and analog circuit. Because of all-metal external mounting, motor heat source and control plate are separated effectively, improving the anti-interference and heat resistance of software and hardware greatly.

Display of Valve Position — During opening and closing of the actuator, the changes of valve position is displayed by big number on LCD screen.

Automatic adjust of phase sequence — Intelligent actuator connects to 3 phase power supply phase sequence automatically.



VALVECOM

ELECTRIC ACTUATOR WITH GEAR TYPE



Basic



With Local controller with
Non-Explosion proof

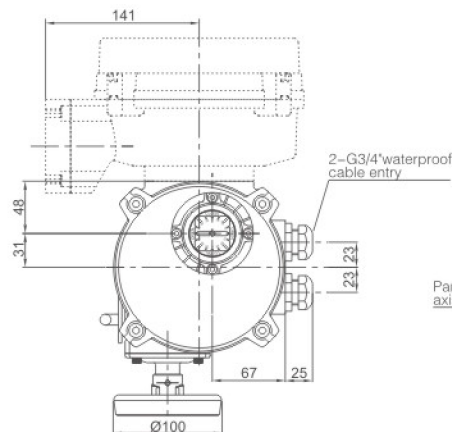
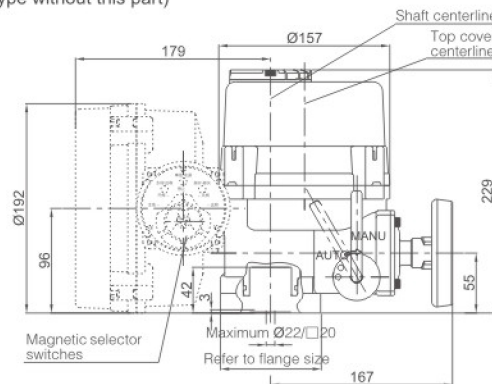
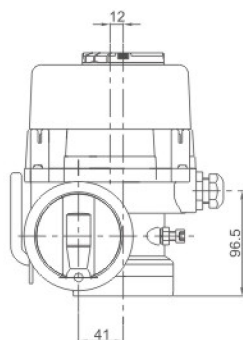


With Local controller with
Explosion proof

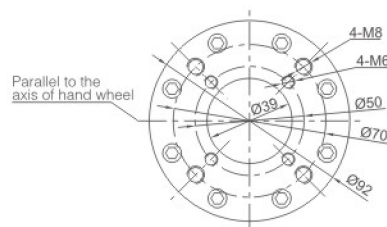
Performance Item	Output torque (N.m)	90° running time (S)	Motor Power (W)	Motor current(A) Rated	Circle number of handwheel	Weight (Kg)	Power supply
OHVE-06	60	26	20	0.45	10	8	AC220V
				1			AC110V
				0.22			AC380V
				0.26			AC440V
OHVE1-10	100	26	20	0.5	10	8	AC220V
				1			AC110V
				0.22			AC380V
				0.26			AC440V
			25	1.7		DC24V	
Case material	Aluminium alloy die-casting						
Position limiting	Mechanical limit 、 travel switch limit						
Enclosure protection	IP-67 (IP-68 optional)						
Surrounding temperature	-20℃~60℃						
Ambient humidity	Relative Humidity > 90%(25%)						
Insulted resistance	≥100MΩ						
Insulted strength	1500V/1Min(AC220V) 2000V/1Min(AC380V)						
Optional function	Explosion proof / Precision Potentiometer、 overhear protection						
Time/torque optional	10S/60N.m 5S/40N.m						
Product color	blue(other colors customized))						

Note: All range actuators are dispatched with explosion proof plugs 2-NPT3/4 fitted into the cable entries, it is the responsibility of the installer to ensure the appropriate cable adapters and packings with explosion proof.

(Part of Doted line is for local controller, basic type without this part)



Flange dimensions





Basic



With Local controller with
Non-Explosion proof

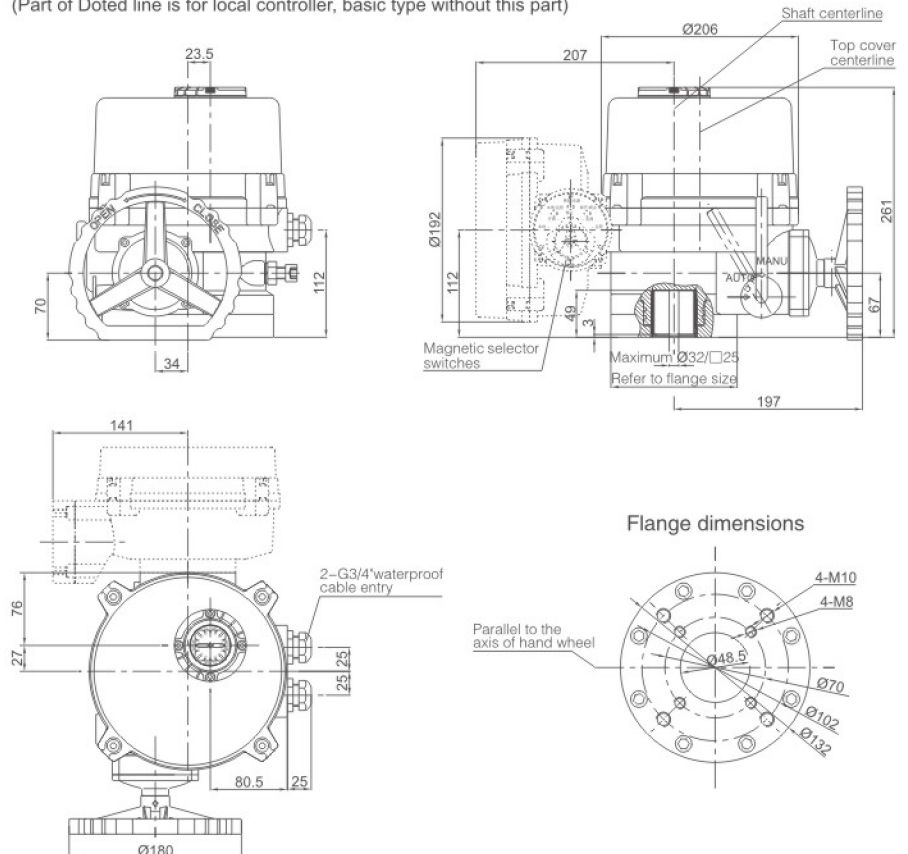


With Local controller with
Explosion proof

Performance Item	Output torque (N.m)	90° running time (S)	Motor Power (W)	Motor current(A) Rated	Circle number of handwheel	Weight (Kg)	Power supply
OHVE2-16	160	28	40	0.6	12	14	AC220V
				1.45			AC110V
				0.25			AC380V
				0.3			AC440V
				2.0			DC24V
OHVE2-20	200	28	40	0.6	12	14	AC220V
				1.5			AC110V
				0.3			AC380V
				0.35			AC440V
				2.2			DC24V
OHVE2-24	240	28	45	0.7	12	14	AC220V
				1.6			AC110V
				0.35			AC380V
				0.39			AC440V
				2.8			DC24V
Case material	Aluminium alloy die-casting						
Position limiting	mechanical limit、 overtorque protection						
Enclosure protection	IP-67 (IP-68 optional)						
Surrounding temperature	-20℃~60℃						
Ambient humidity	Relative Humidity > 90%(25%)						
Insulted resistance	≥100MΩ						
Insulted strength	1500V/1Min(AC220V) 2000V/1Min(AC380V)						
Optional function	Explosion proof/Precision Potentiometer, overtorque protection, overheat protection						
Time/torque optional	15S/200N.m 10S/150N.m 5S/80N.m						
Product color	blue(other colors customized))						

Note: All range actuators are dispatched with explosion proof plugs 2-NPT3/4 fitted into the cable entries, it is the responsibility of the installer to ensure the appropriate cable adapters and packings with explosion proof.

(Part of Dotted line is for local controller, basic type without this part)





Basic



With Local controller with
Non-Explosion proof

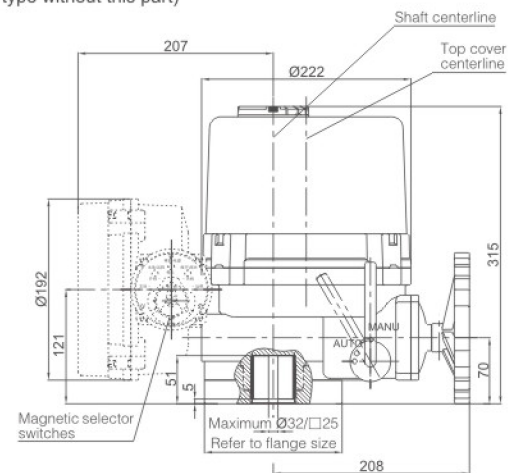
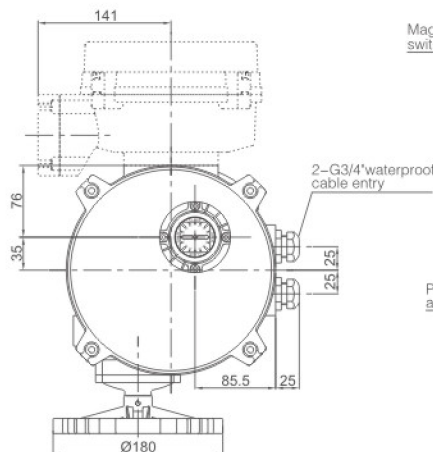
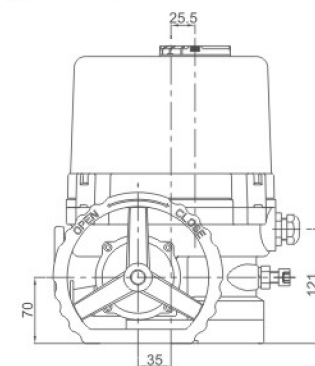


With Local controller with
Explosion proof

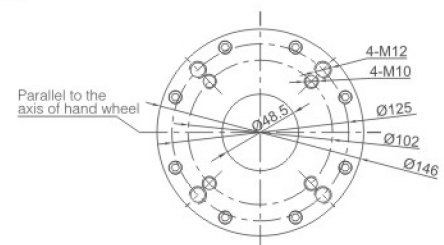
Performance Item	Output torque (N.m)	90° running time (S)	Motor Power (W)	Motor current(A) Rated	Circle number of handwheel	Weight (Kg)	Power supply
OHVE3-35	350	32	60	0.9	13	18	AC220V
				1.8			AC110V
				0.38			AC380V
				0.42			AC440V
				4.0			DC24V
OHVE3-50	500	32	90	1.3	13	19	AC220V
				3.2			AC110V
				0.8			AC380V
				0.86			AC440V
				6.9			DC24V
Case material	Aluminium alloy die-casting						
Position limiting	mechanical limit、overtorque protection						
Enclosure protection	IP-67 (IP-68 optional)						
Surrounding temperature	-20℃~60℃						
Ambient humidity	Relative Humidity > 90%(25%)						
Insulted resistance	≥100MΩ						
Insulted strength	1500V/1Min(AC220V) 2000V/1Min(AC380V)						
Optional function	Explosion proof/Precision Potentiometer、overtorque protection、overheat protection						
Time/torque optional	15S/400N.m 10S/350N.m 5S/150N.m						
Product color	blue(other colors customized))						

Note: All range actuators are dispatched with explosion proof plugs 2-NPT3/4 fitted into the cable entries, it is the responsibility of the installer to ensure the appropriate cable adapters and packings with explosion proof.

(Part of Doted line is for local controller, basic type without this part)



Flange dimensions





Basic



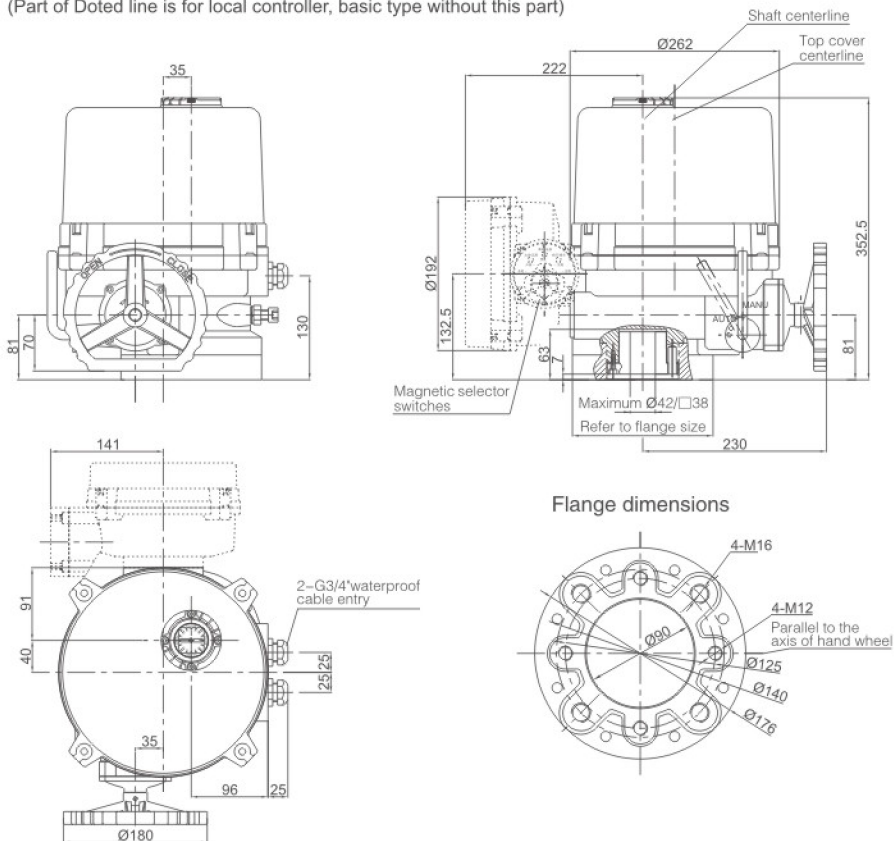
With Local controller with
Non-Explosion proof



With Local controller with
Explosion proof

Performance Item	Output torque (N.m)	90° running time (S)	Motor Power (W)	Motor current(A) Rated	Circle number of handwheel	Weight (Kg)	Power supply
OHVE4-80	800	36	120	1.5	14.5	24	AC220V
				3.9			AC110V
				1.1			AC380V
				1.2			AC440V
				9.8			DC24V
OHVE4-110	1100	36	180	2.2	14.5	26	AC220V
				4.2			AC110V
				1.5			AC380V
				1.6	AC440V		
				12.5	DC24V		
Case material	Aluminium alloy die-casting						
Position limiting	mechanical limit、overtorque protection						
Enclosure protection	IP-67 (IP-68 optional)						
Surrounding temperature	-20℃~60℃						
Ambient humidity	Relative Humidity > 90%(25%)						
Insulted resistance	≥100MΩ						
Insulted strength	1500V/1Min(AC220V) 2000V/1Min(AC380V)						
Optional function	Explosion proof/Precision Potentiometer、overtorque protection、overheat protection						
Time/torque optional	18S/800N.m 12S/600N.m 5S/300N.m						
Product color	blue(other colors customized))						

Note: All range actuators are dispatched with explosion proof plugs 2-NPT3/4 fitted into the cable entries, it is the responsibility of the installer to ensure the appropriate cable adapters and packings with explosion proof. (Part of Dotted line is for local controller, basic type without this part)





Basic



With Local controller with
Non-Explosion proof

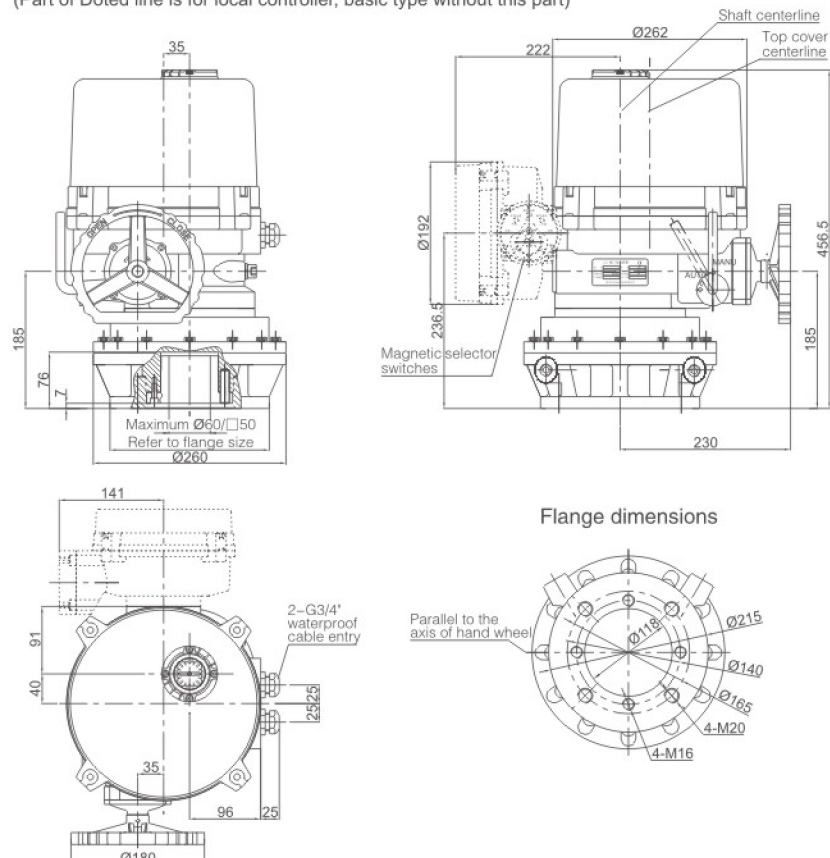


With Local controller with
Explosion proof

Performance Item	Output torque (N.m)	90° running time (S)	Motor Power (W)	Motor current(A) Rated	Circle number of handwheel	Weight (Kg)	Power supply
OHVE4JS-200	2000	110	120	1.5	46	50	AC220V
				3.9			AC110V
				1.1			AC380V
				1.2			AC440V
				9.8			DC24V
OHVE4JS-250	2500	110	180	2.2	46	52	AC220V
				4.2			AC110V
				1.5			AC380V
				1.6			AC440V
				12.5			DC24V
Case material	Aluminium alloy die-casting						
Position limiting	mechanical limit、overtorque protection						
Enclosure protection	IP-67 (IP-68 optional)						
Surrounding temperature	-20℃~60℃						
Ambient humidity	Relative Humidity > 90%(25%)						
Insulted resistance	≥100M Ω						
Insulted strength	1500V/1Min(AC220V) 2000V/1Min(AC380V)						
Optional function	Explosion proof / Precision Potentiometer						
Time/torque optional	55S/2000N.m						
Product color	blue(other colors customized))						

Note: All range actuators are dispatched with explosion proof plugs 2-NPT3/4 fitted into the cable entries, it is the responsibility of the installer to ensure the appropriate cable adapters and packings with explosion proof.

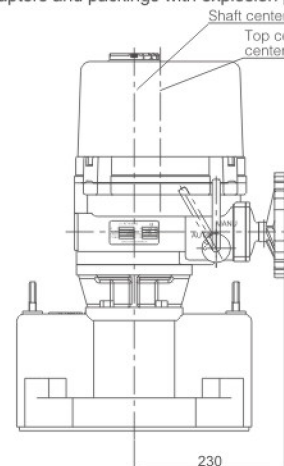
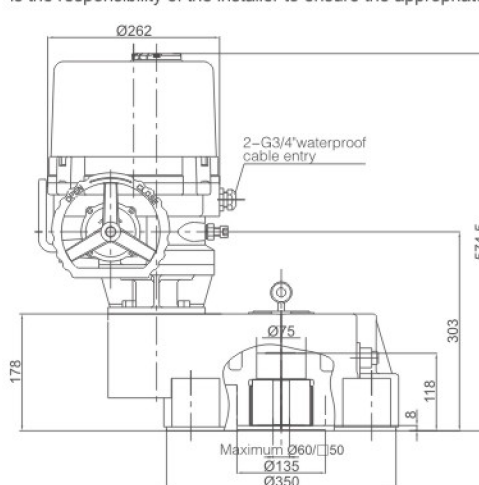
(Part of Doted line is for local controller, basic type without this part)



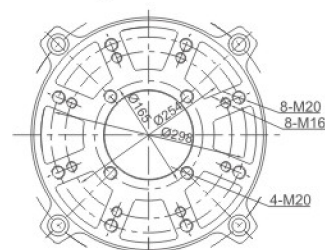
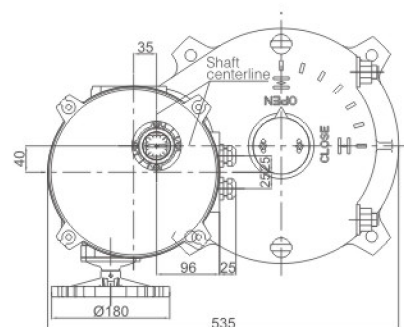


Performance Item	Output torque (N.m)	90° running time (S)	Motor Power (W)	Motor current(A) Rated	Circle number of handwheel	Weight (Kg)	Power supply
OHVE4JS-400	4000	180	120	1.5	73	104	AC220V
				3.9			AC110V
				1.1			AC380V
				1.2			AC440V
				9.8			DC24V
OHVE4JS-600	6000	180	180	2.2	73	106	AC220V
				4.2			AC110V
				1.5			AC380V
				1.6			AC440V
				12.5			DC24V
Case material	Aluminium alloy die-casting						
Position limiting	mechanical limit、 overtorque protection						
Enclosure protection	IP-67 (IP-68 optional)						
Surrounding temperature	-20℃~60℃						
Ambient humidity	Relative Humidity > 90%(25%)						
Insulted resistance	≥100MΩ						
Insulted strength	1500V/1Min(AC220V) 2000V/1Min(AC380V)						
Optional function	Explosion proof / Precision Potentiometer						
Time/torque optional	90S/5000N.m						
Product color	blue(other colors customized))						

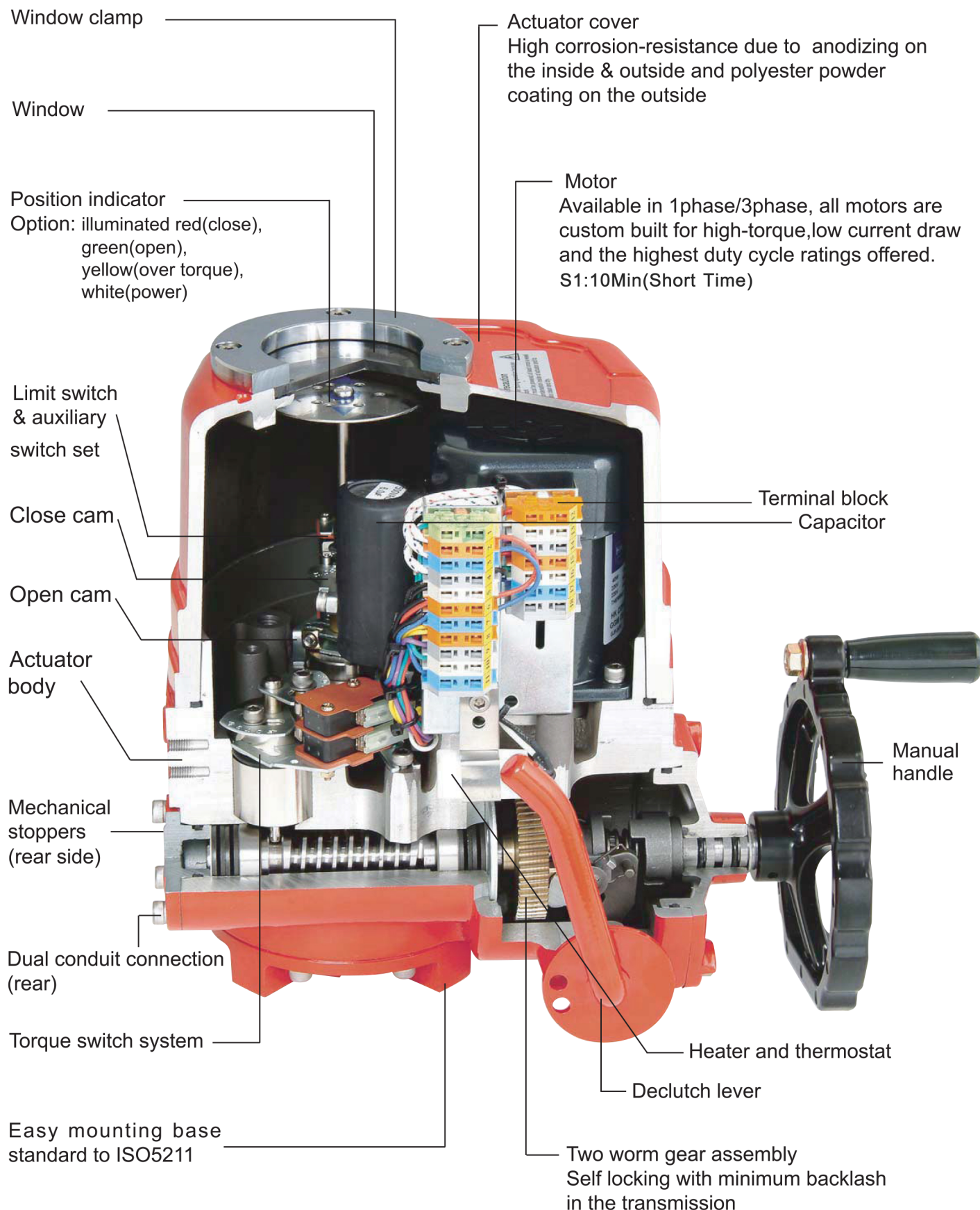
Note: All range actuators are dispatched with explosion proof plugs 2-NPT3/4 fitted into the cable entries, it is the responsibility of the installer to ensure the appropriate cable adapters and packings with explosion proof.

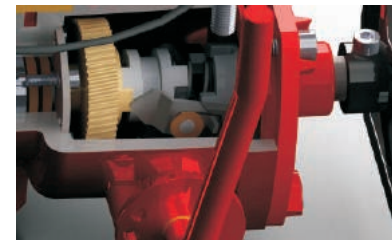


Flange dimensions



Construction





Manual operation(Clutching system)

- Manual/Auto convert to handle and handwheel used for emergency manual operation
- Powered, handle will automatically reset to auto operation



Cam and limit switch

- Tighten with two screws and simple setting
- Each cam can be set separately
- Once set, each cam will be on the position forever.



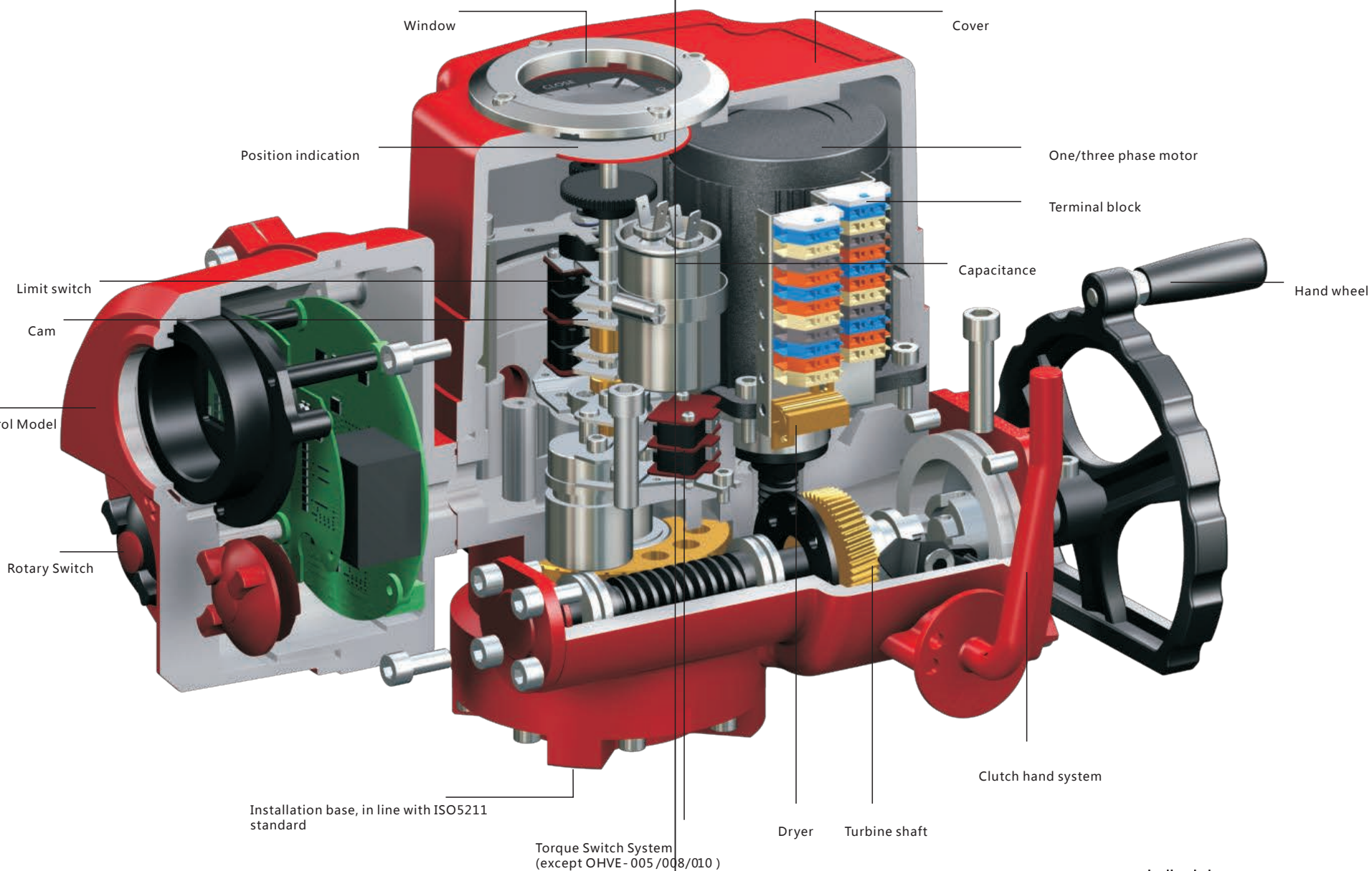
Space heater

- 7-10W, ceramic housing with thermostat to prevent overheat comparing with set temperature
- Without risk of electricity leakage.



Terminal block

- Enough terminal for customer's convenience (Max 22 points)
- Proven reliability and tight wiring connection
- Terminal length: 8-9mm/(2.5mm)
- Terminal dimension: 10 × 22 × 32mm.



Two slots on window glass

- Two slots on the window covers and convex are convenient for draining and observing, and ensure the well sealing of the cover.



Torque switch

- Torque switch protect motor and internal electric components from overheat caused by overload of valve.
- If torque works, the actuator stop at once.



Anti-off bolt

- Cover bolts are specially designed to prevent falling down during maintenance or installation.
- All external bolts are stainless steel for rust prevention.



Inclined plane

- For other actuators, it is hard to take off cover because of little tolerance when the interface between cover and body is vertical.
- For actuators, it is easy to take off cover as small tolerance, the design of interface is 3 degree inclined plane.

■ Standard Configuration



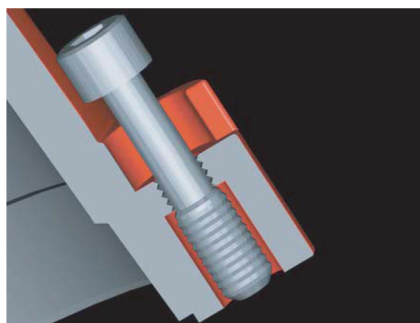
● Terminal block

- Enough number of terminal strips for customer's convenience
- Proven reliability and tight wiring connection.
- Stripped length: 8-9 mm / 0.33 in (2.5mm²)
- Terminal dimensions: 10 × 22 × 32mm



● Heater

- Ceramic housing with thermostat to prevent over heat comparing with set temperature.
- No risk of electricity leakage.



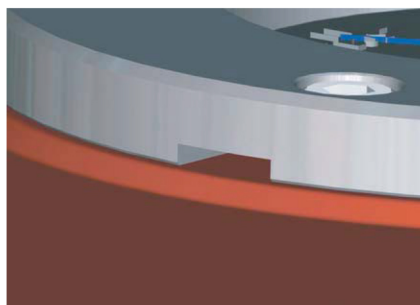
● Captive cover bolt

- Cover bolts are specially designed to prevent losing it during maintenance or installation.
- All external bolts are stainless steel for rust prevention.



● Indicator sustained by spring

- Direction of visual indicator is set by factory.
- In case of changing it's direction, just grip the indicator plate and change the position.
- Spring beneath indicator plate sustains the set position unchanged.
- No need to loose screw and tight it again !



● Slot on window cover for draining rainwater

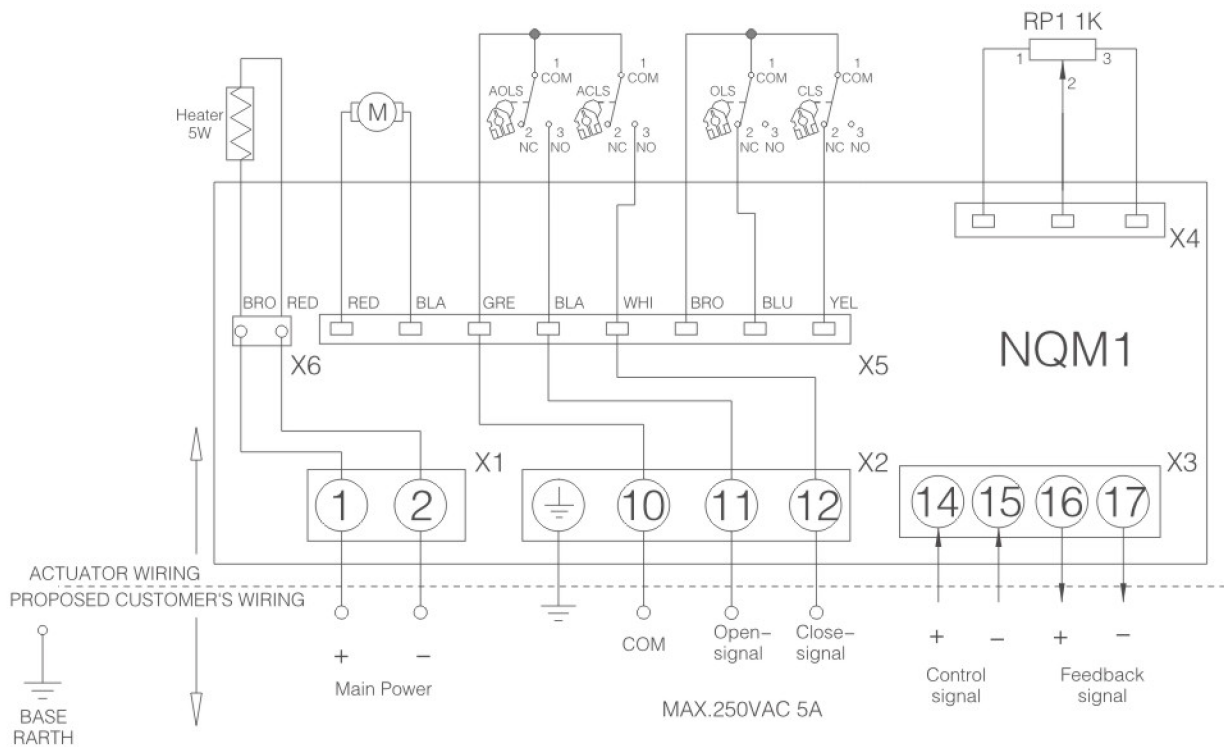
- Rainwater inside of window cover may affect the sealing of window.
- To prevent this, drain slot is useful to prevent this effect.

Standard Technical Parameter

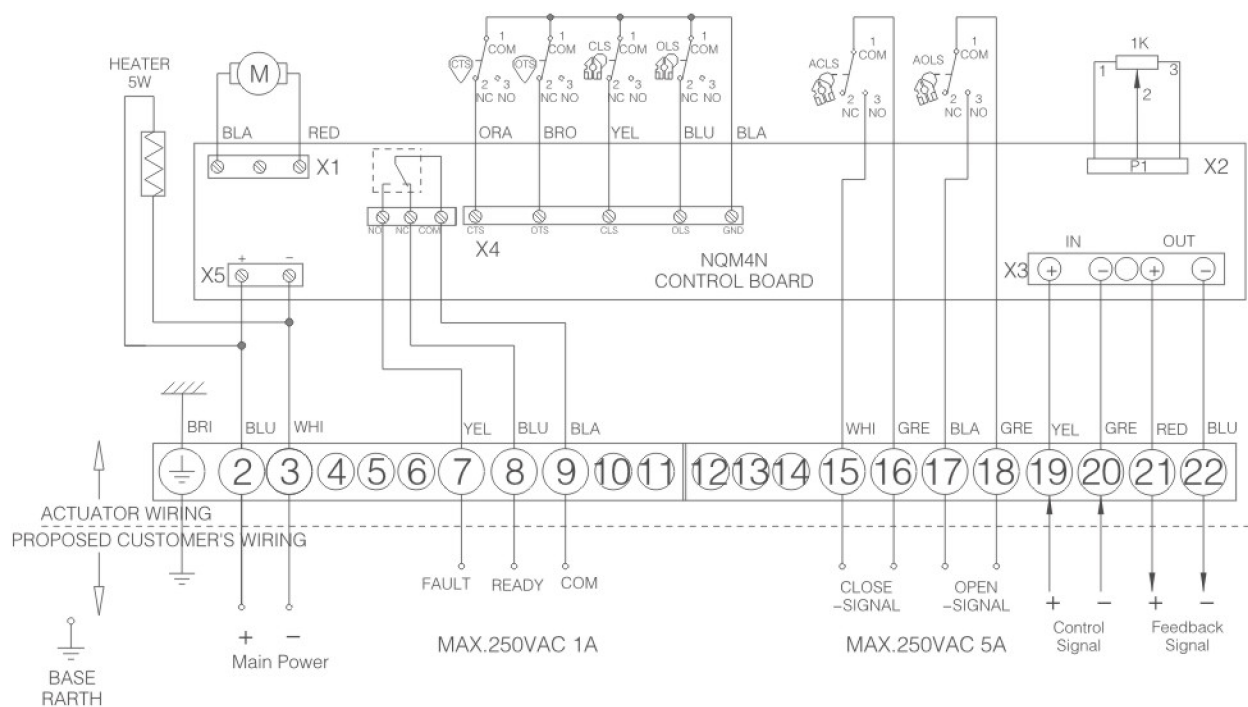
Actuator body	Waterproof level IP67	Optional: IP68, explosion-proof
Motor	Squirrel-cage Asynchronous Motor	
Limit Switch	1 Close&1 Open, SPDT, 250VAC 10A	
Auxiliary Switch Set	1 Close&1 Open, SPDT, 250VAC 10A	
Torque Switch	1 Close&1 Open, SPDT, 250VAC 10A	Except OHQ-005/008/010
Stroke	90°±10°	Optional: 0°- 270°
Failure Protection /Operating Temperature	Internal thermal protection, Open 115°C±5°C /Close 97°C ±5°C	
Indicator	Continuous position indicator	
Manual Operate	Mechanical clutch, operate with handwheel	
Self-lock Device	Self-lock by worm and worm gear	
Mechanical Limit	External adjusting bolts (2 piece)	
Heater and Thermostat	7-10W (110/220V AC)	
Connecting hole	PF 3/4" (2个) PF 3/4" (2 pieces)	
Ambient Temperature	-20°C~+70°C	
Lubrication	Aluminum-base grease(EP type)	
Material	Steel, Aluminum alloy, Aluminum bronze, Polycarbonate	
Ambient Humidity	Max 90% RH	
Anti-vibration	X Y Z10g, 0.2~34HZ, 30minutes X Y Z 10g, 0.2~34HZ, 30minutes	
External Coating	Dry powder, Epoxy polyester	

Wiring drawing for with remote position controller

OHVE With Remote Position Controller(24VDC/AC)

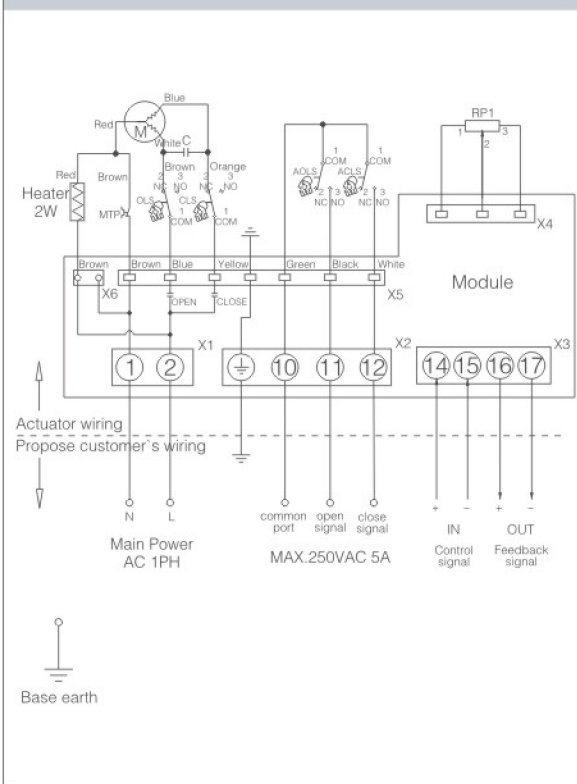


LQ2 With Remote Position Controller(24VDC/AC)

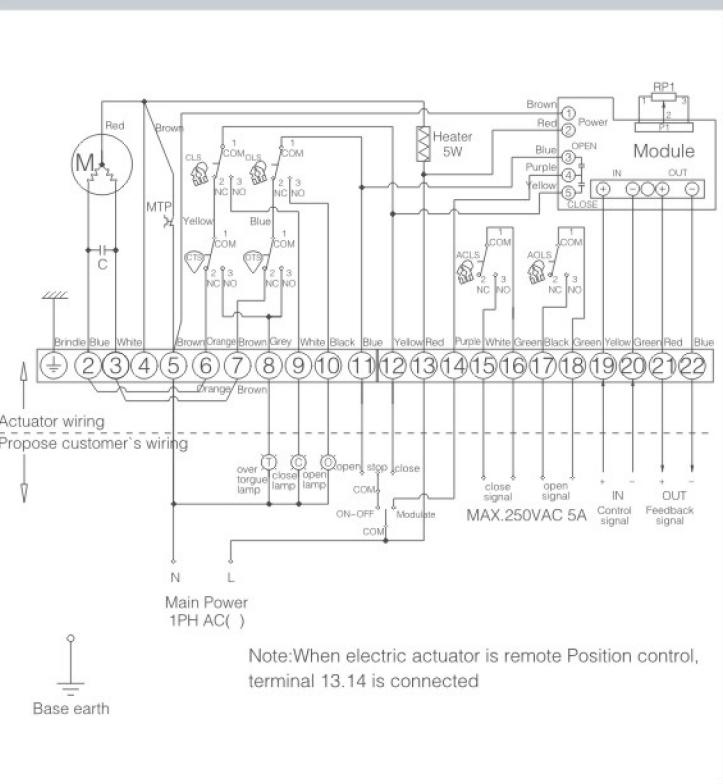


Wiring drawing for with remote position controller

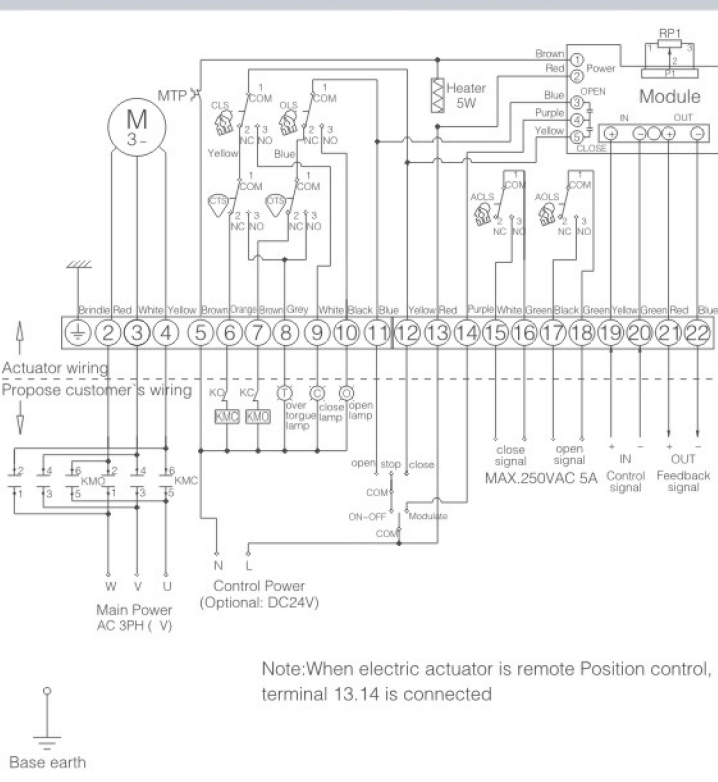
OHVE With Remote Position Controller (1PH AC110V/220V)



OHVE With Remote Position Controller (1PH AC110V/220V)



OHVE With Remote Position Controller (3PH AC380V/415V/440V)



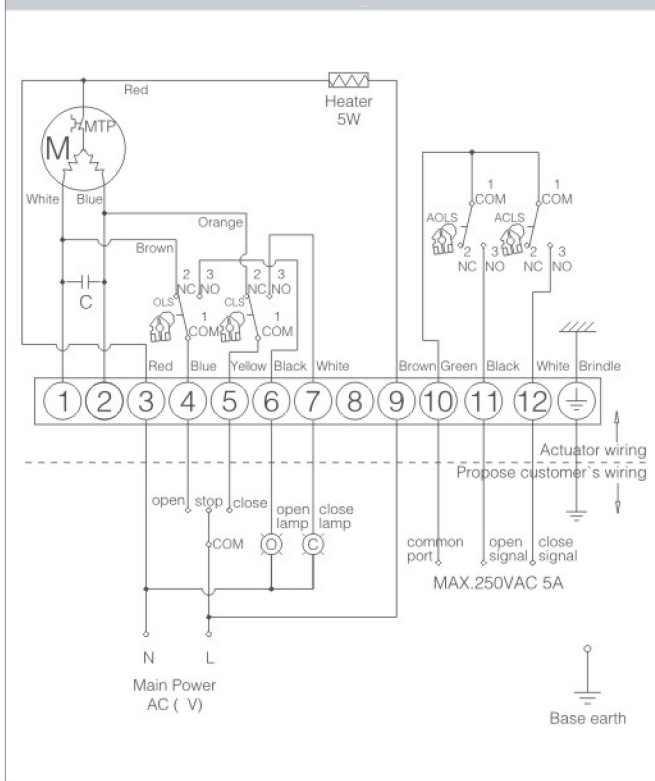
The working state of the limit switch and torque switch

Switch	Full Close	Intermediate	Full Open
CLS 1-2			
CLS 1-3			
OLS 1-2			
OLS 1-3			
ACLS 1-2			
ACLS 1-3			
AOLS 1-2			
AOLS 1-3			
CTS 1-3	Closing torque switch interrupts control when mechanical overload occurs during closing cycle		
OTS 1-3	Opening torque switch interrupts control when mechanical overload occurs during opening cycle		

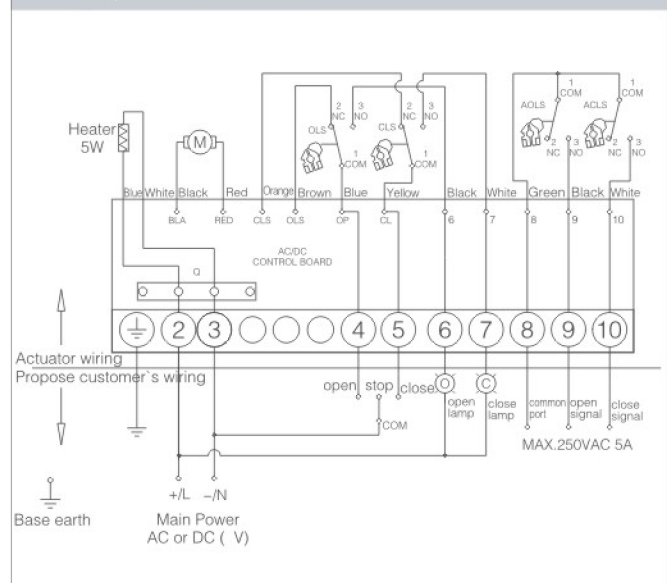
AOLS: Aux.Open Limit Switch
 ACLS: Aux.Close Limit Switch
 O: Open lamp
 C: Close lamp
 T: Over torque lamp
 CLS: Closing limit switch
 OLS: Opening limit switch
 CTS: closing torque switch
 OTS: opening torque switch
 RP1: potentiometer feedback, 1KΩ
 KMC: Closing contactor coils
 KMO: Opening contactor coils
 MTP: Motor Thermal Protector
 M: Motor

Wiring drawing of ON-OFF type

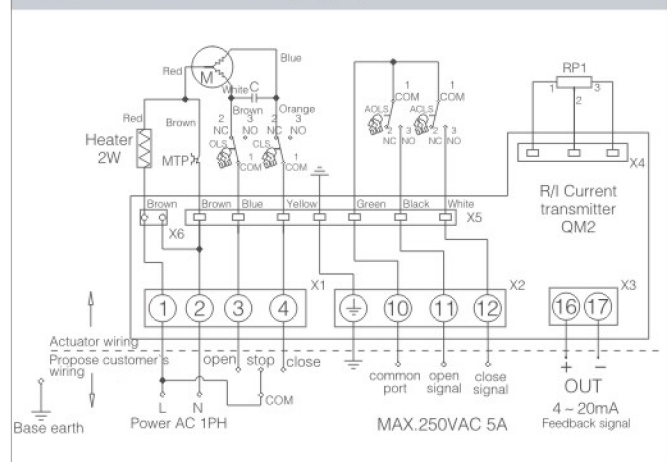
OHVE ON-OFF(1PH AC110V/220V)



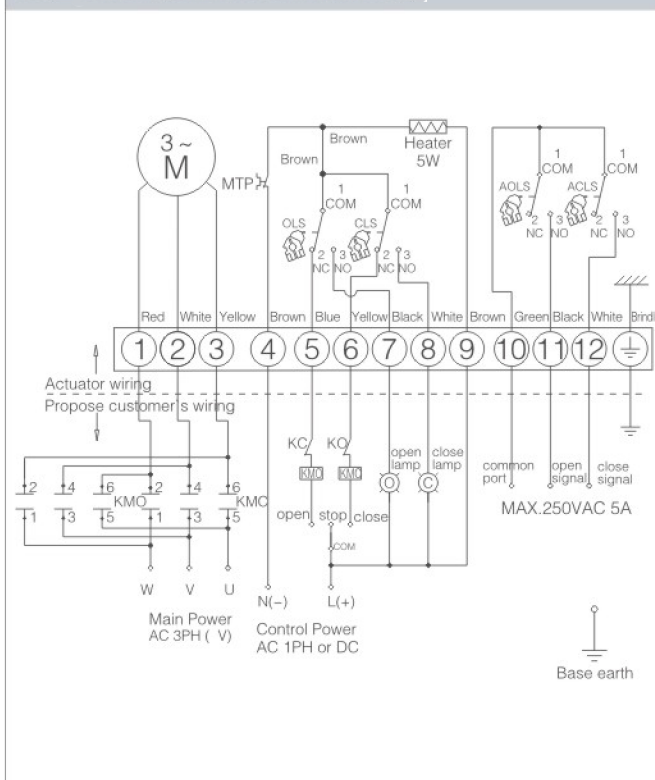
OHVE ON-OFF(24VDC/AC)



OHVE With Position Signal (K type)



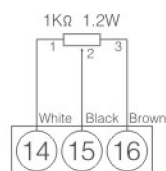
OHVE ON-OFF(3PH AC380V/415V/440V)



The working state of the limit switch

Switch	Full Close	Intermediate	Full Open
CLS 1-2			
CLS 1-3			
OLS 1-2			
OLS 1-3			
ACLS 1-3			
AOLS 1-3			

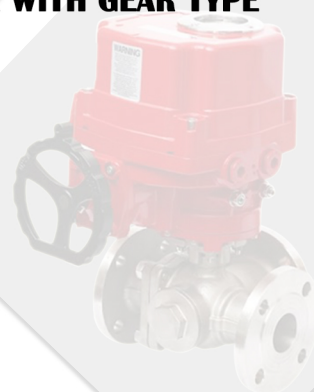
R type:
(with precision potentiometer)



AOLS: Aux Open Limit Switch
 ACLS: Aux Close Limit Switch
 O: Open lamp
 C: Close lamp
 CLS: Closing limit switch
 OLS: Opening limit switch
 KMC: Closing contactor coils
 KMO: Opening contactor coils
 MTP: Motor Thermal Protector
 M: Motor



ELETRIC ACTUATOR WITH GEAR TYPE



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